

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
3 August 2006 (03.08.2006)

PCT

(10) International Publication Number  
**WO 2006/079849 A1**

(51) International Patent Classification:

H01L 21/50 (2006.01) H01L 23/13 (2006.01)  
H01L 23/10 (2006.01) H01L 23/15 (2006.01)  
H01L 21/48 (2006.01)

(21) International Application Number:

PCT/GB2006/050015

(22) International Filing Date: 23 January 2006 (23.01.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

05250485.9 29 January 2005 (29.01.2005) EP  
0501871.8 29 January 2005 (29.01.2005) GB

(71) Applicant (for all designated States except US): EADS  
ASTRIUM LIMITED [GB/GB]; Gunnels Wood Road,  
Stevenage, Hertfordshire SG1 2AS (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): RUMER, Simon,  
Leonard [GB/GB]; Eads Astrium Limited, Anchorage  
Road, Portsmouth, Hampshire PO3 5PU (GB).

(74) Agent: BAE SYSTEMS PLC; P.O. Box 87, Lancaster  
House, Farnborough Aerospace Centre, Farnborough,  
Hampshire GU14 6YU (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

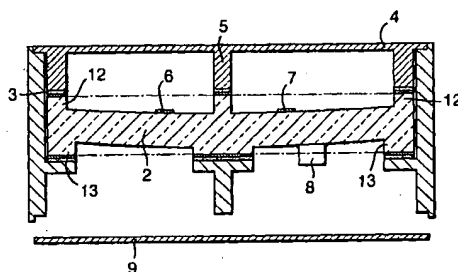
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMPROVEMENTS TO CERAMIC PACKAGES FOR HIGH FREQUENCY CIRCUITS



(57) Abstract: Projecting elongate stub walls (12) and (13) are provided on the planar surfaces of a ceramic substrate (2) at positions where bonding of the substrate to a clamping lid or base is to be carried out. After firing of the substrate, the surfaces (5) thereof are mechanically processed but since the stub walls (12) and (13) protrude from the substrate, the grinding and polishing tools make contact with the surfaces of these stub walls (12) and (13), rather than with the entire substrate surface. As a result, the area of the substrate to be processed is minimised and problems with dishing and erosion are alleviated. This allows the clamping (10) lid, or frame (4) to be bonded using conventional conductive adhesive (3) processes, avoiding the cracking and stress problems associated with non- uniformity of the surface of the ceramic substrates.

WO 2006/079849 A1

BEST AVAILABLE COPY